Amendments to the Claims

Please amend the claims as follows:

1. (Currently amended) In a computing system <u>having a processor storing a software product having program steps that controls said system for</u> providing multi-threaded programming support, <u>said</u> [[a]] system comprising:

a thread monitor class providing thread monitoring services to threads of a multi-threaded process, the thread monitor class including:

a thread registration method to <u>optionally</u> register a thread for monitoring by the class; and

a thread monitoring supervisor to monitor all threads registered for monitoring operation of threads that invoke the thread registration method.

2. (Currently amended) The system of claim 1 wherein the thread monitor class further includes:

a thread un-registration method to <u>optionally</u> remove a prior registration of a thread for monitoring by the class.

3. (Currently amended) The system of claim 1 wherein the thread monitor class further includes:

a stop thread monitoring method to <u>optionally</u> terminate monitoring of all threads registered for monitoring by the class.

4. (Currently amended) The system of claim 1 wherein the thread monitor class further includes:

a thread Heart Beat method to signal a Heart Beat from a thread registered for <u>Heart</u> Beat monitoring by the class.

5. (Currently amended) The system of claim 1 wherein the thread registration method comprises:

a thread alive check registration method <u>optionally</u> invoked by a thread to register for monitoring by the class wherein the monitoring comprises periodically verifying that the invoking thread is still alive.

6. (Currently amended) The system of claim 1 wherein the thread registration method comprises:

a thread poll registration method <u>optionally</u> invoked by a thread to register for monitoring by the class wherein the monitoring comprises periodically verifying that the invoking thread is properly operating by invoking a poll method derived from the thread poll registration invocation<u>; and</u>

<u>said derived poll verifies the functionality of the threaded registration</u>.

7. (Currently amended) The system of claim 1 wherein the thread registration method comprises:

a thread Heart Beat registration method <u>optionally</u> invoked by a thread to register for monitoring by the class wherein the monitoring comprises periodically verifying that the invoking thread is still alive <u>and not hung</u> based on receipt of periodic Heart Beat method invocations from the thread invoking the thread Heart Beat registration method.

8. (Currently amended) The system of claim 1 wherein the thread monitoring supervisor is <u>optionally</u> instantiated within a main thread of a multi-threaded program.

9. (Currently amended) The system of claim 1 wherein the thread monitoring supervisor is further <u>optionally</u> operable to restart an inoperable thread.

10. (Currently amended) The system of claim 1 wherein the thread monitoring supervisor is further <u>optionally</u> operable to restart the process that includes an inoperable thread.

11.(Currently amended) A method comprising a software product in a data processing system for monitoring operability of multiple threads: said method ~~of a computer process~~ comprising the software product controlling the data processing steps of:

instantiating a thread monitoring supervisor in a thread of a multi-threaded process;

optionally registering one or more [[an]] additional ~~thread~~ threads of the multi-threaded process for monitoring of their [[its]] operation by the thread monitoring supervisor; and

monitoring the operability of the additional ~~thread~~ registered "threads" by operation of the thread monitoring supervisor.

12. (Currently amended) The method of claim 11

wherein the step of registering further comprises optionally registering the additional thread as a Heart Beat thread for monitoring according to Heart Beat signals,

wherein said additional thread is operable to periodically communicate a Heart Beat signal with the monitoring supervisor, and

wherein the step of monitoring further comprises detecting periodic receipt of Heart Beat signals to monitor operability of said additional thread.

13. (Original) The method of claim 11 wherein the step of monitoring further comprises determining whether said additional thread is still alive to monitor operability of said additional thread.

14. (Currently amended) The method of claim 11 wherein the step of registering further comprises optionally registering the additional thread as a polling thread associated with a poll function to indicate the operability status of the additional thread, and

wherein the step of monitoring further comprises periodically invoking the poll function associated with the additional thread to monitor operability of the additional thread.

15. (Currently amended) The method of claim 11 wherein the step of instantiating further comprises <u>optionally</u> instantiating the thread monitoring supervisor in a main thread of the multi-threaded process.

16. (Currently amended) The method of claim 11 further comprising <u>optionally</u> restarting an inoperable thread.

17. (Currently amended) The method of claim 11 further comprising <u>optionally</u> restarting a process that includes an inoperable thread.

18 (New) The system of claim 1 wherein the thread monitor is a generic and reusable component.